

# Recent publications by IBM authors

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- Journals and books are listed alphabetically by title; papers are listed sequentially for each journal.

## A

**A Checkable Interface Language for Pointer-Based Structures**, J. R. Russell (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *ACM SIGPLAN Notices* **29**, No. 8, 59-73 (1994).

**Automated Resolution of Semantic Heterogeneity in Multidatabases**, M. W. Bright (IBM Corporation, 800 North Frederick Avenue, Gaithersburg, MD 20879) et al., *ACM Transactions on Database Systems* **19**, No. 2, 212-253 (1994).

**Distance Approximations for Rasterizing Implicit Curves**, G. Taubin (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *ACM Transactions on Graphics* **13**, No. 1, 3-42 (1994).

**Simple Constrained Deformations for Geometric Modeling and Interactive Design**, P. Borrel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and A. Rappoport, *ACM Transactions on Graphics* **13**, No. 2, 137-155 (1994).

**Program Optimization and Parallelization Using Idioms**, S. S. Pinter (Technion, Israel Institute of Technology, IL-32000 Haifa, Israel) and R. Y. Pinter, *ACM Transactions on Programming Languages and Systems* **16**, No. 3, 305-327 (1994).

**Some Comments on a Denotational Semantics for Prolog**, B. Arbab (IBM Corporation, Los Angeles Scientific Center, Santa Monica, CA 90406) and D. M. Berry, *ACM Transactions on Programming Languages and Systems* **16**, No. 3, 605-606 (1994).

**Reasoning About Probabilistic Parallel Programs**, J. R. Rao (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598), *ACM Transactions on Programming Languages and Systems* **16**, No. 3, 798-842 (1994).

**A Bounded 1st-In, 1st-Enabled Solution to the L-Exclusion Problem**, Y. Afek (AT&T Bell Laboratories, Murray Hill, NJ 07974) et al., *ACM Transactions on Programming Languages and Systems* **16**, No. 3, 939-953 (1994).

**A New Model for Grain Boundary Diffusion and Nucleation in Thin Film Reactions**, K. R. Coffey (5600 Cottle Road, San Jose, CA 95193) and K. Barmak, *Acta Metallurgica et Materialia* **42**, No. 8, 2905-2911 (1994).

**A Structured View of Real-Time Problem Solving**, J. K. Strosnider (Carnegie Mellon University, Pittsburgh, PA 15213) and C. J. Paul, *AI Magazine* **15**, No. 2, 45-66 (1994).

**The Uniform Memory-Hierarchy Model of Computation**, B. Alpern (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Algorithmica* **12**, No. 2-3, 72-109 (1994).

**Checking the Correctness of Memories**, M. Blum (University of California at Berkeley, Berkeley, CA 94720) et al., *Algorithmica* **12**, No. 2-3, 225-244 (1994).

**Downsizing Physics for the 90's**, J. H. Stathis (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *American Journal of Physics* **62**, No. 7, 587 (1994).

**Kinetics of Ofloxacin and Its Metabolites in Cerebrospinal Fluid After a Single Intravenous Infusion of 400 Milligrams of Ofloxacin**, R. Nau (University of Gottingen, Robert Koch Strasse 40, D-37075 Gottingen, Germany) et al., *Antimicrobial Agents and Chemotherapy* **38**, No. 8, 1849-1853 (1994).

**Ultrathin Film Hardness Investigations by a Modified Atomic Force Microscope**, G. Persch (IBM Germany, P.O. Box 2540, D-55015 Mainz, Germany) et al., *Applied Physics A* **59**, No. 1, 29-32 (1994).

**Pulsed 532-nm Laser Wirestripping: Removal of Dye-Doped Polyurethane Insulation**, J. Brannon (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and C. Snyder, *Applied Physics A* **59**, No. 1, 73-78 (1994).

**Measurement of the Elastic Properties of Evaporated C-60 Films by Surface Acoustic Waves**, H. Coufal (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Physics A* **59**, No. 1, 83-86 (1994).

**Cyclotron Effective Mass of Holes in  $\text{Si}_{1-x}\text{Ge}_x$  Si Quantum Wells: Strain and Nonparabolicity Effects**, J. P. Cheng (Massachusetts Institute of Technology, Cambridge, MA 02139) et al., *Applied Physics Letters* **64**, No. 13, 1681-1683 (1994).

**Fabrication of Three-Terminal Resonant Tunneling Devices in Silicon-Based Material**, Z. Zaslavsky (Brown University, Providence, RI 02912) et al., *Applied Physics Letters* **64**, No. 13, 1699-1701 (1994).

**Direct Observation of Exciton Localization in a GaAs/AlGaAs Quantum Well**, Y. Takahashi (Yamagata University, Yonezawa, Yamagata 992, Japan) et al., *Applied Physics Letters* **64**, No. 14, 1845-1847 (1994).

**New Approach to the Growth of Low Dislocation Relaxed SiGe Material**, A. R. Powell (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **64**, No. 14, 1856-1858 (1994).

**High-Efficiency and Low-Threshold Current Strained V-Groove Quantum Wire Lasers**, S. Tiwari (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **64**, No. 26, 3536-3538 (1994).

**Nanocrystal Seeding: A Low-Temperature Route to Polycrystalline Si Films**, J. R. Heath (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **64**, No. 26, 3569-3571 (1994).

**Early Stages of Void Formation in Al-Cu Lines Studied Using Positron Annihilation**, P. J. Simpson (Brookhaven National Laboratory, Upton, NY 11973) et al., *Applied Physics Letters* **65**, No. 1, 52-54 (1994).

**Effects of Radio Frequency Radiation on the DC SQUID**, R. H. Koch (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **65**, No. 1, 100-102 (1994).

**Multiple Wavelength Light Source Using an Asymmetric Waveguide Coupler**, B. Pezeshki (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **65**, No. 2, 138-140 (1994).

**Collisionless Electron Treating by Radiofrequency Plasma Sheaths**, M. Surendra (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. Vender, *Applied Physics Letters* **65**, No. 2, 153-155 (1994).

**Crystallographic Texture Change During Abnormal Grain Growth in Cu-Co Thin Films**, J. M. E. Harper (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **65**, No. 2, 177-179 (1994).

**1/f Noise and Electromigration in Aluminum Films: The Role of Film Microstructure and Texture**, R. G. Smith (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Applied Physics Letters* **65**, No. 3, 315-317 (1994).

**Transport Properties in Ti-Ba-Ca-Cu-O Grain Boundary Junctions on  $\text{SrTiO}_3$  Bicrystal Substrates**, E. Sarnelli (CNR, Inst. Cibernet, Via Toiano 6, I-80072 Arco, Italy) et al., *Applied Physics Letters* **65**, No. 3, 362-364 (1994).

**Laser-Induced Deposition of Alumina from Condensed Layers of Organoaluminum Compounds and Water**, J. F. Moore (State University of New York, Stony Brook, Stony Brook, NY 11794) et al., *Applied Physics Letters* **65**, No. 3, 368-370 (1994).

**Near-Field Optical-Data Storage Using a Solid Immersion Lens**, B. D. Terris (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Physics Letters* **65**, No. 4, 388-390 (1994).

**Influence of Capillary Condensation of Water on Nanotribology Studied by Force Microscopy**, M. Binggeli (Ctr. Suisse Electr. & Microtech., CH-2007 Neuchatel, Switzerland) and C. M. Mate, *Applied Physics Letters* **65**, No. 4, 415-417 (1994).

**High-Resolution Atomic Core-Level Spectroscopy with Laser Harmonics**, R. Haight (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and P. F. Seidler, *Applied Physics Letters* **65**, No. 5, 517-519 (1994).

**Blue Light Generation by Resonator-Enhanced Frequency Doubling of an Extended Cavity Diode Laser**, W. J. Kozlovsky (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Physics Letters* **65**, No. 5, 525-527 (1994).

**Laser-Induced Coalescence of Gold Clusters in Fluorocarbon Composite Thin Films**, P. B. Comita (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Surface Science* **80**, 196-202 (1994).

## B

**A Practical Guide to Using Software Usability Labs: Lessons Learned at IBM**, J. L. Fath (J. L. Fath Inc., 1323 Chalmette Drive, Atlanta, GA 30306) et al., *Behavior and Information Technology* **13**, No. 1-2, 94-105 (1994).

**Are We Overlooking Some Usability Testing Methods: A Comparison of Lab, Beta, and Forum Tests**, E. D. Smilowitz (IBM Corporation, San Jose, CA 95114) et al., *Behavior and Information Technology* **13**, No. 1-2, 183-190 (1994).

**Executive Information Systems**, R. Goldring (IBM Corporation, Santa Teresa, CA), *Byte* **19**, No. 8, 20 (1994).

**Cache Advantage**, D. F. Bacon (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598), *Byte* **19**, No. 8, 78+ (1994).

## C

**Anticarcinogenic Activity of Indole-3 Carbinol Acid Products: Ultrasensitive Bioassay by Trout Embryo Microinjection**, R. H. Dashwood (University of Hawaii Manoa, 1800 E. W. Road, Honolulu, Hawaii 96822) et al., *Cancer Research* **54**, No. 13, 3617-3619 (1994).

**The Vibrational and Temperature-Dependence of the Magnetic Properties of the Oxonium Ion (H<sub>3</sub>O<sup>+</sup>)**, S. P. A. Sauer (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Chemical Physics* **184**, No. 1-3, 1-11 (1994).

**Properties of Supercritical Water: An *Ab Initio* Simulation**, E. S. Fois (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Chemical Physics Letters* **223**, No. 5-6, 411-415 (1994).

**Shifts in Adsorbate Vibrational Frequencies Due to Internal Electric Fields**, P. S. Bagus (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and F. Illas, *Chemical Physics Letters* **224**, No. 5-6, 576-580 (1994).

**Electrochemical and Electrochromic Properties of Poly(Dialkylsilyleneferrocenylene) Films**, M. T. Nguyen (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Chemistry of Materials* **6**, No. 7, 952-954 (1994).

**Thin Film Stabilization of Metastable Phases in the Sm<sub>1-x</sub>Sr<sub>x</sub>CuO<sub>y</sub> System**, A. Gupta (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Chemistry of Materials* **6**, No. 7, 1011-1016 (1994).

**Substituted Azole Derivatives as Nonlinear Optical Chromophores**, R. D. Miller (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Chemistry of Materials* **6**, No. 7, 1023-1032 (1994).

**Coach: A Teaching Agent That Learns**, T. Selker (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Communications of the ACM* **37**, No. 7, 92-99 (1994).

**A Finite Element for the Nonlinear Analysis of Laminated Circular Plates**, G. H. Thiel (IBM Corporation, 1701 North Street, Endicott, NY 13760) and R. E. Miller, *Composite Structures* **28**, No. 4, 405-432 (1994).

**Adornments in Database Programs**, I. S. Mumick (AT&T Bell Laboratories, Murray Hill, NJ 07974) et al., *Computer and Artificial Intelligence* **13**, No. 2-3, 201-230 (1994).

**An Approach to Identifying QOS Problems**, K. E. Mourelatou (National Technical University of Athens, GR-15773 Zografos, Greece) et al., *Computer Communications* **17**, No. 8, 563-570 (1994).

**Bandwidth Allocation Algorithms for Packet Video in ATM Networks**, S. Chowdhury (IBM Corporation, Research Triangle Park, NC 27709) and K. Sohraby, *Computer Networks and ISDN Systems* **26**, No. 9, 1215-1223 (1994).

**Reducing Global Address Recognition Delays in Local Area Networks with Spatial Bandwidth Reuse**, R. Simha (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and Y. Ofek, *Computer Networks and ISDN Systems* **26**, No. 11, 1375-1384 (1994).

**Connectionless Data Service in an ATM-Based Customer Premises Network**, J. Y. Leboudec (IBM Corporation, D-69115 Heidelberg, Germany) et al., *Computer Networks and ISDN Systems* **26**, No. 11, 1409-1424 (1994).

**ACM Technical Standards Committee: A New Advocacy Power**, A. Gargaro (Computer Science Corporation, Mt. Laurel, NJ 08054) et al., *Computer Standards & Interfaces* **16**, No. 2, 139-142 (1994).

**Automatic Parallel Generation of Aeolian Fractals on the IBM Power Visualization System**, C. A. Pickover (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Computers & Graphics* **18**, No. 3, 407-416 (1994).

**Multimedia: A Solution for Manufacturing Excellence**, S. J. Micallef (IBM Corporation, Boca Raton, FL 33432), *Control Engineering* **41**, No. 8, 12+ (1994).

## D

**Friction and Wear of DLC Coatings in Various Atmospheres as Studied by Triboscopy**, M. Belin (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Diamond Films and Technology* **4**, No. 1, 51-61 (1994).

**Optimality of the Delaunay Triangulation in RD**, V. T. Rajan (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Discrete and Computational Geometry* **12**, No. 2, 189-202 (1994).

**A New Competitive Algorithm for Group Testing**, A. Barnoy (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) et al., *Discrete Applied Mathematics* **52**, No. 1, 29-38 (1994).

**Computing Maximum Mean Cuts**, S. T. McCormick (University of British Columbia, Vancouver V6T 1Z2, BC, Canada) and T. R. Ervolina, *Discrete Applied Mathematics* **52**, No. 1, 53-70 (1994).

## E

**On Practical Resource Allocation for Production Planning and Scheduling with Period Overlapping Setups**, C. Dillenberger (IBM Corporation, P.O. Box 266, D-71044 Sindelfingen, Germany) et al., *European Journal of Operational Research* **75**, No. 2, 275-286 (1994).

## F

**From Quantum State Specific Dynamics to Reaction Rates: The Dominant Role of Translational Energy in Promoting the Dissociation of D(2) on Cu(111) Under Equilibrium Conditions**, C. T. Rettner (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Faraday Discussions of the Chemical Society* **96**, 17-31 (1993).

## G

**Genetic Linkage Studies of Machado-Joseph Disease with Chromosome-14Q STRPS in 16 Portuguese-Azorean Kindreds**, J. Sequeiros (University of Oporto, LG Abel Salazar 2, P-4000 Oporto, Portugal) et al., *Genomics* **21**, No. 3, 645-648 (1994).

**2D Finite Difference Elastic Wave Modeling Including Surface Topography**, S. Hestholm (IBM Corporation, Thormøhlensgate 55, N-5008 Bergen, Norway) and B. Ruud, *Geophysical Prospecting* **42**, No. 5, 371-390 (1994).

## H

**The New Philanthropy**, S. S. Litow (IBM Corporation, Old Orchard Road, Armonk, NY 10504), *Harvard Business Review* **72**, No. 4, 144 (1994).

**Sample Sizes for Usability Studies: Additional Considerations**, J. R. Lewis (IBM Corporation, P.O. Box 1328, Boca Raton, FL 33429), *Human Factors* **36**, No. 2, 368-378 (1994).

## I

**Transmission Line Delay Limitations of Laser Bandwidths**, S. Tiwari (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Proceedings—Optoelectronics* **141**, No. 3, 163-166 (1994).

**Integrated AlGaAs Waveguide Components for Optical Phase Difference Measurement and Correction**, S. D. Lau (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Journal of Quantum Electronics* **30**, No. 6, 1417-1426 (1994).

**Design for Concurrent Error Detection and Testability in Storage Logic Arrays**, H. V. Savin (IBM Corporation, P.O. Box A, Essex Junction, VT 05452) et al., *IEEE Journal of Solid-State Circuits* **29**, No. 7, 770-779 (1994).

**Large Signal 2T, 1C Dram Cell: Signal and Layout Analysis**, W. H. Henkels (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and W. Hwang, *IEEE Journal of Solid-State Circuits* **29**, No. 7, 829-832 (1994).

**High-Speed Low-Power Direct Coupled Complementary Push-Pull ECL Circuit**, C. T. Chuang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and K. Chin, *IEEE Journal of Solid-State Circuits* **29**, No. 7, 836-839 (1994).

**User Separating Demodulation for Code Division Multiple Access Systems**, M. Rupf (IBM Corporation, Säumerstrasse 4, 8903 Rüschlikon, Switzerland) et al., *IEEE Journal on Selected Areas in Communications* **12**, No. 5, 786-795 (1994).

**Multicasting to Multiple Groups Over Broadcast Channels**, I. Gopal (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and R. Rom, *IEEE Transactions on Communications* **42**, No. 7, 2423-2431 (1994).

**Dynamic Manufacturing Process Control**, K. Pearsall (IBM Corporation, Austin, TX 78758) and B. Raines, *IEEE Transactions on Components, Packaging and Manufacturing Technology Part A* **17**, No. 1, 153-158 (1994).

**Design Tradeoffs Among MCM-C, MCM-D, and MCM-D/C Technologies**, A. Iqbal (Amdahl Corporation, 46525 Landing Parkway, Fremont, CA 94538) et al., *IEEE Transactions on Components, Packaging and Manufacturing Technology Part B* **17**, No. 1, 22-29 (1994).

**Multilevel Thin Film Packaging: Applications and Processes for High-Performance Systems**, K. Prasad (IBM Corporation, Route 52, Hopewell Junction, NY 12533) and E. Perfecto, *IEEE Transactions on Components, Packaging and Manufacturing Technology Part B* **17**, No. 1, 38-49 (1994).

**Electrical Test of Multichip Substrates**, L. Economikos (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *IEEE Transactions on Components, Packaging and Manufacturing Technology Part B* **17**, No. 1, 56-61 (1994).

**Estimating the Dynamic Behavior of Printed Circuit Boards**, A. O. Cifuentes (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Transactions on Components, Packaging and Manufacturing Technology Part B* **17**, No. 1, 69-75 (1994).

**Advanced Design and Modeling for Manufacturability of a hybrid MCM Package**, S. D. Kadakia (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *IEEE Transactions on Components, Packaging and Manufacturing Technology Part B* **17**, No. 2, 170-174 (1994).

**Addressing Design for Testability at the Architectural Level**, V. Chickermane (IBM Corporation, 1701 North Street, Endicott, NY 13760) et al., *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* **13**, No. 7, 920-934 (1994).

**Yield Enhancement of Programmable ASIC Arrays by Reconfiguration of Circuit Placements**, J. Narasimhan (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* **13**, No. 8, 976-986 (1994).

**Timing Constraints for Wave Pipelined Systems**, C. T. Gray (IBM Corporation, Research Triangle Park, NC 27709) et al., *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* **13**, No. 8, 987-1004 (1994).

**Broad-Side Delay Test**, J. Savir (IBM Corporation, Route 52, Hopewell Junction, NY 12533) and S. Patil, *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* **13**, No. 8, 1057-1064 (1994).

**On Bends and Distances of Paths Among Obstacles in 2-Layer Interconnection Model**, D. T. Lee (Northwestern University, Evanston, IL 60208) et al., *IEEE Transactions on Computers* **43**, No. 6, 711-724 (1994).

**Nonquasistatic Effects in Saturated Bipolar Circuits**, B. S. Wu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Electron Devices* **41**, No. 6, 1069-1072 (1994).

**A Model for the Time Dependence and Bias Dependence of P-MOSFET Degradation**, M. Brox (IBM Corporation, P.O. Box A, Essex Junction, VT 05452) et al., *IEEE Transactions on Electron Devices* 41, No. 7, 1184-1196 (1994).

**A Low-Capacitance Bipolar BiCMOS Isolation Technology I. Concept, Fabrication Process, and Characterization**, J. N. Burghartz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Electron Devices* 41, No. 8, 1379-1387 (1994).

**A Low-Capacitance Bipolar BiCMOS Isolation Technology II. Circuit Performance and Device Self-Heating**, J. N. Burghartz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10599) et al., *IEEE Transactions on Electron Devices* 41, No. 8, 1388-1395 (1994).

**Increasing Profitability and Improving Semiconductor Manufacturing Throughput Using Expert Systems**, D. Khera (National Institute of Standards & Technology, Gaithersburg, MD 20899) et al., *IEEE Transactions on Engineering Management* 41, No. 2, 143-151 (1994).

**A Review of Machine Learning in Scheduling**, H. Aytug (University of Florida, Gainesville, FL 32611) et al., *IEEE Transactions on Engineering Management* 41, No. 2, 165-171 (1994).

**Optimal Sequential Probability Assignment for Individual Sequences**, M. J. Weinberger (Hewlett Packard Corp., Palo Alto, CA 94303) et al., *IEEE Transactions on Information Theory* 40, No. 2, 384-396 (1994).

**Note on the Method of Poles for Code Construction**, J. Ashley (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and M. P. Beal, *IEEE Transactions on Information Theory* 40, No. 2, 512-517 (1994).

**Maximum-Likelihood Soft Decision Decoding of BCH Codes**, A. Vardy (University of Illinois, Urbana, IL 61801) and Y. Beery, *IEEE Transactions on Information Theory* 40, No. 2, 546-554 (1994).

**The Strong Law of Large Numbers for Sequential Decisions Under Uncertainty**, P. H. Algoet (Stanford University, Stanford, CA 94305), *IEEE Transactions on Information Theory* 40, No. 3, 609-633 (1994).

**Coding for Delay Insensitive Communication with Partial Synchronization**, M. Blaum (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and J. Bruck, *IEEE Transactions on Information Theory* 40, No. 3, 941-945 (1994).

**Slider Disk Clearance Measurements in Magnetic Disk Drives Using the Readback Transducer**, K. B. Klaassen (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and J. C. Van Peppen, *IEEE Transactions on Instrumentation and Measurement* 43, No. 2, 121-126 (1994).

**Site and Query Scheduling Policies in Multicomputer Database Systems**, O. Frieder (George Mason University, Fairfax, VA 22030) and C. K. Baru, *IEEE Transactions on Knowledge and Data Engineering* 6, No. 4, 609-619 (1994).

**On the Track Profile in Magnetoresistive Heads**, D. E. Heim (IBM Corporation, San Jose, CA 95193), *IEEE Transactions on Magnetics* 30, No. 4, 1453-1464 (1994).

**Allicat Magnetoresistive Head Design and Performance**, D. Hannon (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) and M. Krounbi, *IEEE Transactions on Magnetics* 30, No. 2, 298-302 (1994).

**Design and Operation of Spin Valve Sensors**, D. E. Heim (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) et al., *IEEE Transactions on Magnetics* 30, No. 2, 316-321 (1994).

**Magnetic Instability of Thin Film Recording Heads**, K. B. Klaassen (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and J. C. Van Peppen, *IEEE Transactions on Magnetics* 30, No. 2, 375-380 (1994).

**Air Bearing Design Considerations for Constant Fly Height Applications**, D. S. Chhabra (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) et al., *IEEE Transactions on Magnetics* 30, No. 2, 417-423 (1994).

**Head Material Effects on Interface Tribochemistry**, X. H. Pan (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) and V. J. Novotny, *IEEE Transactions on Magnetics* 30, No. 2, 433-439 (1994).

**Mechanism for Formation of Whiskers on a Flying Magnetic Recording Slider**, B. Hiller (Siemens Med. Systems Inc., Henkestrasse 127, D-91054 Erlangen, Germany) and G. P. Singh, *IEEE Transactions on Magnetics* 30, No. 4, 1499-1503 (1994).

**Neural Network Control of Communications Systems**, R. J. T. Morris (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and B. Samadi, *IEEE Transactions on Neural Networks* 5, No. 4, 639-650 (1994).

**An Equivalence Theorem for Labeled Marked Graphs**, Y. Wolfsthal (IBM Haifa, IL-31905 Haifa, Israel) and M. Yeoli, *IEEE Transactions on Parallel and Distributed Systems* 5, No. 8, 886-891 (1994).

**Parameterized Families of Polynomials for Bounded Algebraic Curve and Surface Fitting**, G. Taubin (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Pattern Analysis and Machine Intelligence* 16, No. 3, 287-303 (1994).

**A Neural Network Approach to CSG-Based 3-D Object Recognition**, T. W. Chen (IBM Corporation, 1000 NW 51st Street, Boca Raton, FL 33431) and W. C. Lin, *IEEE Transactions on Pattern Analysis and Machine Intelligence* 16, No. 7, 719-726 (1994).

**An Image Directed Robotic System for Precise Orthopedic Surgery**, R. H. Taylor (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Robotics and Automation* 10, No. 3, 261-275 (1994).

**QDA: A Method for Systematic Informal Program Analysis**, W. E. Howden (University of California at San Diego, La Jolla, CA 92093) and B. Wieand, *IEEE Transactions on Software Engineering* 20, No. 6, 445-462 (1994).

**$2\sqrt{N}$  Symmetrical Communication Structure for Decentralized Consensus Protocols Using a Duality of Indexes**, A. Nakajima (IBM Japan Ltd., Yamato 242, Japan), *IEICE Transactions on Information and Systems* VE77D, No. 6, 669-675 (1994).

**An Approach to Integrated Pen Interface for Japanese Text Entry**, K. Toyokawa (IBM Japan Ltd., Yamato 242, Japan) et al., P. Luthi, *IEICE Transactions on Information and Systems* VE77D, No. 7, 817-824 (1994).

**New Parallel Newton-Raphson Methods and Their Implementations with Accumulate Instructions**, W. Cunto (IBM Venezuela, AP 64778, Caracas, Venezuela), *IFIP Transactions A* 44, 53-62 (1994).

**TIBAS: Concurrent Engineering and Cooperative Problem Solving Design Tools for Interaction Between the Automotive Industry and Its Suppliers**, G. Jacucci (University of Trent, Via Mesiano 77, I-38050 Trent, Italy) et al., *IFIP Transactions B* 17, 151-164 (1994).

**Intelligent LAN Concentrators Evolution to ATM**, H. Sourbes (IBM Corporation, La Garde, France) et al., *IFIP Transactions C* 18, 119-130 (1994).

**A Refined Approximation of a Finite Capacity Polling System Under ATM Bursty Arrivals**, Y. F. Jou (North Carolina State University, Raleigh, NC 27695) et al., *IFIP Transactions C* 18, 395-406 (1994).

**Does Middleware Provide an Adequate Distributed Application Environment?**, J. Slonim (IBM Canada Ltd., 895 Don Mills Road, North York, Ontario M3C 1W3, Canada) et al., *IFIP Transactions E* 20, 53-65 (1994).

**Decidability and Expressiveness for First-Order Logics of Probability**, M. Abadi (Digital Equipment Corporation, 130 Lytton Avenue, Palo Alto, CA 94301) and J. Y. Halpern, *Information and Computation* 112, No. 1, 1-36 (1994).

**Calling Names on Nameless Networks**, B. Schieber (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and M. Snir, *Information and Computation* 113, No. 1, 80-101 (1994).

**Time Varying Sensitive Regions in Dynamic Multimedia Objects: A Pragmatic Approach to Content-Based Retrieval from Video**, V. Burrill (Rutherford Appleton Lab., Didcot OX11 0QX, Oxon, England) et al., *Information and Software Technology* 36, No. 4, 213-223 (1994).

**An Analysis of SQL Integrity Constraints from an Entity Relationship Model Perspective**, A. H. F. Laender (University Fed. Minas Gerais, Caixa Postal 702, BR-30161970 Belo Horizonte, MG, Brazil) et al., *Information Systems* 19, No. 4, 331-358 (1994).

**In Situ TEM Studies of the Crystallization of Amorphous Silicon: The Role of Silicides**, J. L. Batstone (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) and C. Hayzelden, *Institute of Physics Conference Series* 134, 165-172 (1993).

**TEM Observation of Thin Oxide Nitride Oxide Layers**, R. M. Anderson (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Institute of Physics Conference Series* 134, 221-224 (1993).

**Electron Beam Charging Thermography: A Novel Technique to Study Thermal Effects at Mirrors of Laser Diodes**, A. Jakubowicz (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Institute of Physics Conference Series* 134, 265-268 (1993).

**Top View Construction Analysis of 16 Mbit DRAM by Atomic Force Microscopy: A New Approach**, E. Druet (IBM France, BP 58, F-91105 Corbeil Essonnes, France) and P. H. Albaredo, *Institute of Physics Conference Series* 134, 617-622 (1993).

**The Characterization of Thin Films of MBE Grown  $\text{La}_{1-x}\text{Sr}_x\text{CuO}_{4.8}$** , Transmission Electron Microscopy, E. J. Williams (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Institute of Physics Conference Series* 138, 329-332 (1993).

**Resonance Enhanced 2-Photon Ionization Time-of-Flight Spectroscopy FO Cold Perfluorinated Polyethers and Their External and Internal Van der Waal's Dimers**, D. S. Anex (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *International Journal of Mass Spectrometry and Ion Processes* 131, 319-334 (1994).

**Rethinking the Ph.D.**, J. A. Armstrong (IBM Corporation, Old Orchard Road, Armonk, NY 10504), *Issues in Science and Technology* 10, No. 4, 19-22 (1994).

## J

**Silicon Germanium Carbon Alloys Extending Si Based Heterostructure Engineering**, A. R. Powell (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and S. S. Iyer, *Japanese Journal of Applied Physics* 33, No. 4B, 2388-2391 (1994).

**Thermally Induced Precipitation of Silicon Carbide in a Semiconductor Matrix Application to Nanoparticle Fabrication**, A. R. Powell (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10599) et al., *Japanese Journal of Applied Physics* 33, No. 4B, 2392-2394 (1994).

**The Effect of Residual Stresses on Adhesion Measurements**, M. D. Thouless (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and H. M. Jensen, *Journal of Adhesion Science and Technology* 8, No. 6, 579-586 (1994).

**Hydrothermal Degradation and Thermal Regeneration of an Aminosilane Interface Used to Couple Polyimide to Alumina**, M. Anschel (PCSCC Inc., Box 173, Botsford, CT 06404) and P. D. Murphy, *Journal of Adhesion Science and Technology* 8, No. 7, 787-806 (1994).

**Ultrasensitive Optical Spectroscopy of Rare Earth Solids**, M. L. Jones (University of Georgia, Athens, GA 30602) et al., *Journal of Alloys and Compounds* **207**, No. JUN, 133-137 (1994).

**Scanning Near-Field Optical Microscope for the Imaging of Magnetic Domains in Optically Opaque Materials**, T. J. Silva (University of California, 9500 Gilman Drive, La Jolla, CA 92093) et al., *Journal of Applied Physics* **65**, No. 6, 658-660 (1994).

**Interface Analysis of (110)-Oriented Co/Pt Superlattices with Large Magnetic Anisotropies Using X-ray Diffraction**, I. S. Pogosova (Rhein Westfal Th Aachen, Templegraben 55, D-52056 Aachen, Germany) et al., *Journal of Applied Physics* **76**, No. 2, 908-913 (1994).

**Thermal Activation in KRF Laser Ablation of CuCl**, S. Kuper (Hoechst AG, W-6200 Wiesbaden 12, Germany) et al., *Journal of Applied Physics* **76**, No. 2, 1203-1209 (1994).

**Interaction of Hydrogen, Methane, Ethylene, and Cyclopentane with Hot Tungsten: Implications for the Growth of Diamond Films**, H. F. Winters (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Applied Physics* **76**, No. 2, 1228-1243 (1994).

**Atomic Layer Epitaxy of Si on Ge(100): Direct Recoiling Studies of Film Morphology**, D. D. Koleske (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and S. M. Gates, *Journal of Applied Physics* **76**, No. 3, 1615-1621 (1994).

**Te Doping of GaAs Using Diethyl Tellurium**, M. Kamp (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Journal of Applied Physics* **76**, No. 3, 1974-1976 (1994).

**Dynamics of Sodium-Doped Polyacetylene**, A. J. Dianoux (Inst. Max von Laue Paul Langevin, F-38042 Grenoble, France) et al., *Journal of Chemical Physics* **101**, No. 1, 634-644 (1994).

**Integrating the Car-Parrinello Equations I. Basic Integration Techniques**, M. E. Tuckerman (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and M. Parrinello, *Journal of Chemical Physics* **101**, No. 2, 1302-1315 (1994).

**Integrating the Car-Parrinello Equations II. Multiple Time-Scale Techniques**, M. E. Tuckerman (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and M. Parrinello, *Journal of Chemical Physics* **101**, No. 2, 1316-1329 (1994).

**Reaction of an H-Atom Beam with Cl/Au(111): Dynamics of Concurrent Eley-Rideal and Langmuir-Hinshelwood Mechanisms**, C. T. Rettner (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Chemical Physics* **101**, No. 2, 1529-1546 (1994).

**Germanium Quantum Dots: Optical Properties and Synthesis**, J. R. Heath (University of California, 405 Hilgard Avenue, Los Angeles, CA 90024) et al., *Journal of Chemical Physics* **101**, No. 2, 1607-1615 (1994).

**The Molecular Structure of C-6: A Theoretical Investigation**, J. Hutter (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and H. P. Luthi, *Journal of Chemical Physics* **101**, No. 3, 2213-2216 (1994).

**Atomic H Abstraction of Surface H on Si: An Eley-Rideal Mechanism**, D. D. Koleske (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Chemical Physics* **101**, No. 4, 3301-3309 (1994).

**A Fourth Order Accurate Method for the Incompressible Navier-Stokes Equations on Overlapping Grids**, W. D. Henshaw (Los Alamos National Laboratory, Los Alamos, NM 87545), *Journal of Computational Physics* **113**, No. 1, 13-25 (1994).

**Specified Precision Polynomial Root Isolation is in NC**, C. A. Neff (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Computer and System Sciences* **48**, No. 3, 429-463 (1994).

**On the Accuracy of Absorbing Boundary Conditions for Wave Propagation**, A. H. Kamel (IBM Corporation, Thormøhlensgate 55, N-5008 Bergen, Norway), *Journal of Electromagnetic Waves and Applications* **8**, No. 5, 647-657 (1994).

**Cost Effective Schemes for the Numerical Simulation of Electromagnetic Waves**, A. H. Kamel (IBM Corporation, Thormøhlensgate 55, N-5008 Bergen, Norway), *Journal of Electromagnetic Waves and Applications* **8**, No. 6, 693-710 (1994).

**Titanium Silicide Germanide Formation on Submicron Features for High-Mobility SiGe Channel Field-Effect Transistors**, P. D. Agnello (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Electronic Materials* **23**, No. 4, 413-421 (1994).

**Alkoxide Precursors for Controlled Oxygen Incorporation During Metalorganic Vapor Phase Epitaxy GaAs and Al<sub>x</sub>Ga<sub>1-x</sub>As Growth**, J. W. Huang (University of Wisconsin, Madison, WI 53706) et al., *Journal of Electronic Materials* **23**, No. 7, 659-667 (1994).

**The Non-Gaussian Statistics of the Velocity Field in Low-Resolution Large-Eddy Simulations of Homogeneous Turbulence**, M. Briscolini (IBM Corporation, Viale Oceano Pacifico 171, I-00144 Rome, Italy) and P. Santangelo, *Journal of Fluid Mechanics* **270**, No. JULY, 199-217 (1994).

**A High-Density, Four-Channel, OEIC Transceiver Module Utilizing Planar Processed Optical Waveguides and Flip-Chip, Solder-Bump Technology**, K. P. Jackson (IBM Corporation, Rochester, MN 55901) et al., *Journal of Lightwave Technology* **12**, No. 7, 1185-1191 (1994).

**Constraint Logic Programming: A Survey**, J. Jaffar (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and M. J. Maher, *Journal of Logic Programming* **20**, 503-581 (1994).

**Temperature-Dependent Radiative Recombination of Free Excitons in High Quality GaAs Heterostructures**, H. P. Hjalmarson (Sandia National Labs, Albuquerque, NM 87185) et al., *Journal of Luminescence* **60-1**, 830-833 (1994).

**Fundamentals of Single Molecule Spectroscopy in Solids**, W. E. Moerner (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Luminescence* **60-1**, 997-1002 (1994).

**A New Approach for Designing Fast Expert Systems**, P. Lu (IBM Canada Ltd., Don Mills Road, North York, Ontario M3C 1W3, Canada) and J. N. Siddall, *Journal of Mechanical Design* **116**, No. 2, 382-387 (1994).

**Photosensitive Tetramethylpiperidine Urethanes: Synthesis and Characterization**, S. Martina (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Organic Chemistry* **59**, No. 12, 3281-3283 (1994).

**The Synthesis and Characterization of a Self-Assembling Amphiphilic Fullerene**, C. J. Hawker (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Organic Chemistry* **59**, No. 12, 3503-3505 (1994).

**On Characterization and Correctness of Distributed Deadlock Detection**, A. D. Kshemkalyani (IBM Corporation, P.O. Box 12195, Research Triangle Park, NC 27709) and M. Singhal, *Journal of Parallel and Distributed Computing* **22**, No. 1, 44-59 (1994).

**Catalytic Synthesis of Single Layer Carbon Nanotubes with a Wide Range of Diameters**, C. H. Kiang (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Physical Chemistry* **98**, No. 26, 6612-6618 (1994).

**Crossed Beam Rovibrational Energy Transfer from S-1 Glyoxal II. Uniform Scattering Characteristics from the Initial Level-0(0), Level-5(1), and Level-8(1)**, B.D. Gilbert (Indiana University, Bloomington, IN 47405) et al., *Journal of Physical Chemistry* **98**, No. 29, 7116-7122 (1994).

**Localization of Excitation by Electron Donating Side Groups in the Novel Copolymer Poly[Methylphenyl-Co-Methyl 4 (Dimethylamino) Phenylsilane]**, D. A. M. Smith (University of Pennsylvania, Philadelphia, PA 19104) et al., *Journal of Physical Chemistry* **98**, No. 30, 7359-7365 (1994).

**Optical Probing of Single Molecules of Terrylene in a Shpol'skii Matrix: A Two-State Single Molecule Switch**, W. E. Moerner (ETH Zentrum, CH-8092 Zurich, Switzerland) et al., *Journal of Physical Chemistry* **98**, No. 30, 7382-7389 (1994).

**Giant Magnetoresistance Due to Spin-Dependent Interface Scattering**, R. K. Nesbet (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Physics-Condensed Matter* **6**, No. 31, L449-L454 (1994).

**Ab Initio Simulations of Water and Water Ions**, M. E. Tuckerman (IBM Corporation, Säumerstrasse 4, 9803 Rorschlikon, Switzerland) et al., *Journal of Physics-Condensed Matter* **6**, No. S23, A93-A100 (1994).

**Enhanced NMDA Conductance Can Account for Epileptiform Activity Induced by Low  $Mg^{2+}$  in the RAT Hippocampal Slice**, R. D. Traub (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Physiology-London* **478**, No. 3, 379-393 (1994).

**Blue-Green-Solid-State Up Conversion Lasers**, R. M. Macfarlane (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Physique IV* **4**, No. NC4, 289-292 (1994).

**High-Injection Barrier Effects in SiGe HBTS Operating at Cryogenic Temperatures**, J. D. Cressler (Auburn University, 200 Brown Hall, Auburn, AL 36849) et al., *Journal of Physique IV* **49**, No. NC6, 117-122 (1994).

**The Effect of CA Doping on the Structures of  $YBaCu_3O_{7-x}$  and  $Y_2BaCu_3O_{7-x}$  Single Crystals**, H. Schwer (Swiss Federal Institute of Technology, CH-8093 Zurich, Switzerland) et al., *Journal of Solid State Chemistry* **111**, No. 1, 96-103 (1994).

**Tuned Constrained Layer Damping of a Cantilevered Plate**, J. C. Harrison (Appl. Magnet Corp., 75 Robin Hill Road, Santa Barbara, CA 93117) et al., *Journal of Sound and Vibration* **174**, No. 3, 413-427 (1994).

**Experiences in Transferring a Software Process Improvement Methodology to Production Laboratories**, M. Halliday (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Systems and Software* **26**, No. 1, 61-68 (1994).

**High Resolution X-ray Diffraction and Ab Initio Quantum Chemical Studies of Glycoluril, a Biotin Analog**, N. Y. Li (Med FDN Buffalo Inc., 73 High Street, Buffalo, NY 14203) et al., *Journal of the American Chemical Society* **116**, No. 15, 6494-6507 (1994).

**Ab Initio Molecular Dynamics Study of Metallocene-Catalyzed Ethylene Polymerization**, R. J. Meier (DSM Res. BV, P.O. Box 18, 6160 Md. Geleen, Netherlands) et al., *Journal of the American Chemical Society* **116**, No. 16, 7274-7281 (1994).

**Carbene Rearrangements .43. Carbene Rearrangements in Constrained Systems II. Carbenes in Constrained Systems 2. First Carbene Reactions Within Zeolites: Solid-State Photolysis of Adamantane-2-Spiro-3'-Diazirine**, R. Kupfer (SUNY Binghamton, Binghamton, NY 13902) et al., *Journal of the American Chemical Society* **116**, No. 16, 7393-7398 (1994).

**Electrochemically Deposited Diffusion Barriers**, M. Paunovic (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of the Electrochemical Society* **141**, No. 7, 1843-1850 (1994).

**Intrinsic and Passivation Induced Trench Tapering During Plasma Etching**, S. Hamaguchi (IBM Corporation, P.O. Box 219, Yorktown Heights, NY 10598) and M. Dalvie, *Journal of the Electrochemical Society* **141**, No. 7, 1964-1972 (1994).

**Measured Effects of Reduced Flow Velocity in a Laminar Flow Cleanroom**, P. E. Carr (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Journal of the IES* **37**, No. 3, 41-46 (1994).



**Terahertz Coherent Transients from Methyl-Chloride Vapor**, H. Harde (University of Bundeswehr, Holstenhofweg 85, D-22043 Hamburg, Germany) et al., *Journal of the Optical Society of America B* 11, No. 6, 1018-1030 (1994).

**Ion-Assisted Etching of Si with  $\text{Cl}_2$ : The Effect of Flux Ratio**, J. W. Coburn (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Vacuum Science & Technology B* 12, No. 3, 1384-1389 (1994).

**Arsenic Gas Phase Doping of Polysilicon**, C. M. Ransom (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Journal of Vacuum Science & Technology B* 12, No. 3, 1390-1393 (1994).

**Near-Field Optics: Light for the World of Nano**, D.W. Pohl (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and L. Novotny, *Journal of Vacuum Science & Technology B* 12, No. 3, 1441-1446 (1994).

**Study of Magnetic Characteristics of Tips for Magnetic Force Microscopy**, K. Sueoka (IBM Corporation, 1623-14 Shimotsuruma, Yamato, Kanagawa 242, Japan) et al., *Journal of Vacuum Science & Technology B* 12, No. 3, 1618-1622 (1994).

**Combined Scanning Tunneling and Force Microscopy**, D. Anselmetti (University of Basel, CH-4056 Basel, Switzerland) et al., *Journal of Vacuum Science & Technology B* 12, No. 3, 1677-1680 (1994).

**Structure of Au on Ag(110) Studied by Scanning Tunneling Microscopy**, S. Chiang (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Vacuum Science & Technology B* 12, No. 3, 1747-1750 (1994).

**Scanning Tunneling Microscopy of Co on Pt(111)**, P. Grutter (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and U. T. Durig, *Journal of Vacuum Science & Technology B* 12, No. 3, 1768-1771 (1994).

**Observation of the Relaxation Processes That Follow Atom Removal from the Au(111) Surface with the Scanning Tunneling Microscope**, Y. Hasegawa (Kyoto University, Kyoto 60601, Japan) and P. Avouris, *Journal of Vacuum Science & Technology B* 12, No. 3, 1797-1800 (1994).

**Scanning Tunneling Microscopy of Ordered C-60 and C-70 Layers on Au(111), Cu(111), Ag(110), and Au(110) Surfaces**, J. K. Gimzewski (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Journal of Vacuum Science & Technology B* 12, No. 3, 1942-1946 (1994).

**Imaging Molecular Adsorbates: Resolution Effects and Determination of Adsorption Parameters**, S. Chiang (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Vacuum Science & Technology B* 12, No. 3, 1957-1962 (1994).

**Photon Spectroscopy, Mapping, and Topography of 85 Percent Porous Silicon**, P. Dumaks (Fac. Sci. Luminy, F-13288 Marseille 9, France) et al., *Journal of Vacuum Science & Technology B* 12, No. 3, 2064-2066 (1994).

**Nanostructuring of Porous Silicon Using Scanning Tunneling Microscopy**, P. Dumaks (Fac. Sci. Luminy, F-13288 Marseille 9, France) et al., *Journal of Vacuum Science & Technology B* 12, No. 3, 2067-2069 (1994).

**Matteucci Effect of an Amorphous Alloy Tip Used for High-Density Magnetic Recording with a Scanning Tunneling Microscope**, S. Tsuji (IBM Japan Ltd., Yamato, Kanagawa 242, Japan) and O. Watanuki, *Journal of Vacuum Science & Technology B* 12, No. 3, 2144-2147 (1994).

**Internal Structure of C(60) on Au(110) As Observed by Low-Temperature Scanning Tunneling Microscopy**, R. Gaisch (University of Lausanne, CH-1015 Lausanne, Switzerland) et al., *Journal of Vacuum Science & Technology B* 12, No. 3, 2153-2155 (1994).

**Corrugation Reversal in Scanning Tunneling Microscopy**, C. J. Chen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science & Technology B* 12, No. 3, 2193-2199 (1994).

**Study and Control of Molecule Surface Interaction at the Atomic Level: SB4 on Si(001)**, Y. W. Mo (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science & Technology B* 12, No. 3, 2231-2236 (1994).

**Fluorocarbon High-Density Plasmas .8. Study of the Ion Flux Composition at the Substrate in Electron Cyclotron Resonance Etching Processes Using Fluorocarbon Gases**, K. H. R. Kirmse (University of Wisconsin, Madison, WI 53706) et al., *Journal of Vacuum Science and Technology A* 12, No. 4, 1287-1292 (1994).

**Role of Ions in Reactive Ion Etching**, J. W. Coburn (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Vacuum Science and Technology A* 12, No. 4, 1417-1424 (1994).

**Deposition of Diamond-Like Carbon Using a Planar Radio Frequency Induction Plasma**, D. L. Pappas (Gillette Company, 1 Gillette Park, Boston, MA 02127) and J. Hopwood, *Journal of Vacuum Science and Technology A* 12, No. 4, 1576-1582 (1994).

**Hot Electron Scattering Effects in Metal Semiconductor Structures and Their Role in Interface Transport**, R. Ludeke (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and A. Bauer, *Journal of Vacuum Science and Technology A* 12, No. 4, 1910-1914 (1994).

**Reactive Ion Etching LAG Investigation of Oxide Etching in Fluorocarbon Electron Cyclotron Resonance Plasmas**, O. Joubert (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Vacuum Science and Technology A* 12, No. 4, 1957-1961 (1994).

**Quantum-Size Effects in Ultrathin Cu(100) Films**, G. J. Mankey (Penn State University, University Park, PA 16802) et al., *Journal of Vacuum Science and Technology A* 12, No. 4, 2183-2186 (1994).

**Si(100)2 × 1 < Sb Surfaces Studied with Photoemission and Optical Spectroscopy**, A. Cricenti (CNR. Inst. Struttura Mat., Via Enrico Fermi 38, I-00044 Frascati, Italy) et al., *Journal of Vacuum Science and Technology A* **12**, No. 4, 2327-2331 (1994).

**Morphology and Bonding Measured from Boron Nitride Powders and Films Using Near-Edge X-ray Absorption Fine Structure**, L. J. Terminello (Lawrence Livermore National Lab, Livermore, CA 94550) et al., *Journal of Vacuum Science and Technology A* **12**, No. 4, 2462-2466 (1994).

## M

**Synthesis and Properties of Novel Water Soluble Conducting Polyaniline Copolymers**, M. T. Nguyen (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Macromolecules* **27**, No. 13, 3625-3631 (1994).

**Synthesis and Properties of Highly Fluorinated Polyimides**, G. Hougham (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Macromolecules* **27**, No. 13, 3642-3649 (1994).

**Short-Time Interdiffusion at Polymer Interfaces**, G. Agrawal (University of Illinois, 1304 W. Green Street, Urbana, IL 61801) et al., *Macromolecules* **27**, No. 15, 4407-4409 (1994).

**Importance Sampling for the Simulation of Highly Reliable Markovian Systems**, P. Shahabuddin (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Management Science* **40**, No. 3, 333-352 (1994).

**Giant Magnetoresistance in Magnetic Multilayers and Granular Alloys**, S. S. P. Parkin (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Materials Letters* **20**, No. 1-2, 1-4 (1994).

**Ferromagnetism and Spin Glass in Amorphous Fe-Zr Alloys**, M. Yu (Hokkaido Institute of Technology, Teine Ku, Sapporo 006, Japan) et al., *Materials Science and Engineering A* **182**, 856-859 (1994).

**Enhancement of Curie Temperature in Amorphous Co-Y Alloys**, Y. Kakehashi (Hokkaido Institute of Technology, Teine Ku, Sapporo 006, Japan) et al., *Materials Science and Engineering A* **182**, 946-949 (1994).

**New Algorithms for Generalized Network Flows**, E. Cohen (AT&T Bell Laboratories, Murray Hill, NJ 07974) and N. Megiddo, *Mathematical Programming* **64**, No. 3, 325-336 (1994).

**Interactive Region and Volume Growing for Segmenting Volumes in MR and CT Images**, G. J. Sivewright (IBM United Kingdom Ltd., Winchester SO21 2JN, England) and P. J. Elliott, *Medical Informatics* **19**, No. 1, 71-80 (1994).

**Photolithography Overview for 64 Megabit Production**, T. Leslie (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Microelectronic Engineering* **25**, No. 1, 67-74 (1994).

**Low-Energy Electron Microscopy**, R. M. Tromp (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *MRS Bulletin* **19**, No. 6, 44-46 (1994).

## N

**Preparation and Structure of Crystals of the Metallofullerene SC-2-AT-C-84**, R. Beyers (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Nature* **370**, No. 6486, 196-199 (1994).

**Application of AMS and Inverse Pixe to the Study of Radioactive Waste Management Problems**, H. Artigas (CNRS, 3A Rue Ferrolerie, F-45071 Orleans 2, France) et al., *Nuclear Instruments & Methods in Physics Research Section B* **92**, No. 1-4, 227-230 (1994).

**Meson Decay Constants from the Valence Approximation to Lattice QCD**, F. Butler (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Nuclear Physics B* **421**, No. 1, 217-240 (1994).

**A Note on Using Alternative 2nd Order Models for the Subproblems Arising in Barrier Function Methods for Minimization**, A. R. Conn (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Numerische Mathematik* **68**, No. 1, 17-33 (1994).

**The Nanometer Age: Challenge and Chance**, H. Rohrer (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Nuovo Cimento Della Societa Italiana di Fisica A* **107**, No. 7, 989-1000 (1994).

## O

**Electric Field Modulated Photon Echoes in Pr<sub>3</sub>AlO<sub>3</sub>**, R. M. Macfarlane (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and A. J. Meixner, *Optics Letters* **19**, No. 13, 987-989 (1994).

## P

**Visibly Better Edge Detection Using Observed Image Contrasts**, T. P. Kaushal (IBM United Kingdom Ltd., St. Clement Street, Winchester SO23 9DR, England), *Pattern Recognition Letters* **15**, No. 7, 641-647 (1994).

**An Analytical Model of Reconstruction Time in Mirrored Disks**, A. Merchant (NEC USA, C&C Research Laboratory, Princeton, NJ 08540) and P. S. Yu, *Performance Evaluation* **20**, No. 1-3, 115-129 (1994).

**Optimal Task Scheduling on Distributed Parallel Processors**, C. S. Chang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Performance Evaluation* **20**, No. 1-3, 207-221 (1994).

**Interpolation Approximations for Symmetrical Fork Join Queues**, S. Varma (IBM Corporation, Research Triangle Park, NC 27709) and A. M. Makowski, *Performance Evaluation* **20**, No. 1-3, 245-265 (1994).

**Fast Transient Simulation of Markovian Models of Highly Dependable Systems**, P. Shahabuddin (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Performance Evaluation* **20**, No. 1-3, 267-286 (1994).

**Limits of Parallelism in Hash Join Algorithms**, A. N. Mourad (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Performance Evaluation* **20**, No. 1-3, 301-316 (1994).

**Relation of Spin and Charge Dynamics in HTSCs**, B. Bucher (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physica B* **199**, 268-269 (1994).

**Low-Temperature Physics of the 2-Impurity, 2-Channel Kondo Model**, K. Ingersent (University of Florida, 215 Williamson Hall, Gainesville, FL 32611) and B. A. Jones, *Physica B* **199**, 402-405 (1994).

**Study of the Instability of the Single Impurity Multichannel Ground-State to Inter-Impurity Interactions**, B. A. Jones (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and K. Ingersent, *Physica B* **199**, 411-412 (1994).

**Kondo Insulator to Antiferromagnet Transition in Heavy Fermion Compounds**, Z. Q. Wang (Los Alamos National Laboratory, Los Alamos, NM 87545) et al., *Physica B* **199**, 463-465 (1994).

**Charge Dynamics in the Kondo Insulator  $\text{Ce}_3\text{BiPt}_3$** , B. Bucher (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physica B* **199**, 499-491 (1994).

**Influence of the Synthesis Conditions and Carbonate Content on the Properties of  $\text{Y}_2\text{Ba}_4\text{Cu}_7\text{O}_{14-x}$** , J. Karpinski (Swiss Federal Institute of Technology, CH-8093 Zurich, Switzerland) et al., *Physica C* **227**, No. 1-2, 68-76 (1994).

**Investigation of the Use of Prandtl Navier-Stokes Equation Procedures for Two-Dimensional Incompressible Flows**, C. R. Anderson (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and M. B. Reider, *Physical Fluids* **6**, No. 7, 2380-2389 (1994).

**GaAs  $\text{C}(4 \times 4)$  Surface Structure in Organometallic Vapor Phase Epitaxy**, A. P. Payne (AT&T Bell Laboratories, Murray Hill, NJ 07974) et al., *Physical Review B* **49**, No. 20, 4427-4434 (1994).

**Improved Tetrahedron Method for Brillouin Zone Integrations**, P. E. Blochl (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Physical Review B* **49**, No. 23, 6223-6233 (1994).

**Chemical Order in Amorphous Silicon Carbide**, J. Tersoff (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **49**, No. 23, 6349-6352 (1994).

**Collective Excitations in Double-Layer Quantum Hall Systems**, A. H. MacDonald (Indiana University, Bloomington, IN 47405) and S. C. Zhang, *Physical Review B* **49**, No. 24, 7208-7215 (1994).

**Electronic and Geometric Structure of LA-AT-C-82 and C-82: Theory and Experiment**, D. M. Poirier (IFW Dresden Ev., Inst. Festkörperforschung, D-01171 Dresden, Germany) et al., *Physical Review B* **49**, No. 24, 7403-7412 (1994).

**Antiferromagnetic Coupling in (111)-Oriented Co/Pt Superlattices**, K. Ledang (University of Paris, F-91405 Orsay, France) et al., *Physical Review B* **50**, No. 1, 200-204 (1994).

**Neutron Diffraction Study of the Magnetic Ordering in the Insulating Regime of the Perovskites  $\text{RNiO}_3$  ( $\text{R} = \text{Pr}$  and  $\text{Nd}$ )**, J. L. Garciamunoz (Inst. Laue Langevin, Boite Postale 156, F-38042 Grenoble 9, France) et al., *Physical Review B* **50**, No. 2, 978-992 (1994).

**Theoretical Analysis of the O(1S) Binding Energy Shifts in Alkaline Earth Oxides: Chemical or Electrostatic Contributions**, G. Pacchioni (University of Milan, Via Venezian 21, I-20133 Milan, Italy) and P. S. Bagus, *Physical Review B* **50**, No. 4, 2576-2581 (1994).

**Enhanced Magneto-optical Kerr Effect in Spontaneously Ordered FePt Alloys: Quantitative Agreement Between Theory and Experiment**, A. Cebollada (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Physical Review B* **50**, No. 5, 3419-3422 (1994).

**Minimum Critical Length for Superconductivity in One-Dimensional Wires**, C. C. Chi (National Tsing Hua University, Hsinchu 300, Taiwan) et al., *Physical Review B* **50**, No. 5, 3487-3490 (1994).

**Observation of X-ray Speckle by Coherent Scattering at Grazing Incidence**, Z. H. Cai (Argonne National Laboratory, Argonne, IL 60439) et al., *Physical Review Letters* **73**, No. 1, 82-85 (1994).

**Kinetic Instability in the Growth of  $\text{CaF}_2$  on  $\text{Si}(111)$** , R. M. Tromp (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and M. C. Reuter, *Physical Review Letters* **73**, No. 1, 110-113 (1994).

**Magnetic Field Symmetry Properties of the Capacitance Tensor of a Two-Dimensional Electron System**, W. Chen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review Letters* **73**, No. 1, 146-149 (1994).

**Instability Dynamics of Fracture: A Computer Simulation Investigation**, F. F. Abraham (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Physical Review Letters* **73**, No. 2, 272-275 (1994).

**Cyclic Growth of Strain-Relaxed Islands**, F. K. LeGoues (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review Letters* **73**, No. 2, 300-303 (1994).

**Hydrolysis at Stepped  $\text{MgO}$  Surfaces**, W. Langel (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and M. Parrinello, *Physical Review Letters* **73**, No. 3, 504-507 (1994).

**Pairing Symmetry and Flux Quantization in a Tricrystal Superconducting Ring of  $\text{YB}_2\text{Cu}_3\text{O}_{7-x}$** , C. C. Tsuei (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review Letters* **73**, No. 4, 593-596 (1994).

**Structural Properties of a Carbon Nanotube Crystal**, J. Tersoff (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and R. S. Ruoff, *Physical Review Letters* **73**, No. 5, 676-679 (1994).

**Plasma Particulate Interactions in Nonuniform Plasmas with Finite Flows**, S. Hamaguchi (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and R. T. Farouki, *Physics of Plasma* **1**, No. 7, 2110-2118 (1994).

**Two Questions Physics Can No Longer Avoid**, M. C. Gutzwiller (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physics Today* **47**, No. 8, 9+ (1994).

**Mechanism of Polyimide Charring on Thin Film Line Deletes**, L. Economikos (IBM Corporation, Route 52, Hopewell Junction, NY 12533) and L. Litz, *Processing of Advanced Materials* **4**, No. 1, 29-35 (1994).

**Mechanisms and Reduction of Interlevel Shorts for Multichip Modules (MCM-D)**, L. Economikos (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Processing of Advanced Materials* **4**, No. 1, 49-56 (1994).

## Q

**Systems Level Thinking Needed in Reengineering Efforts**, A. Crudden (IBM Corporation, Stamford, CT 06904), *Quality Progress* **27**, No. 8, 14 (1994).

## R

**Tunable Photoemission with Harmonics of Subpicosecond Lasers**, R. Haight (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. R. Peale, *Review of Scientific Instruments* **65**, No. 6, 1853-1857 (1994).

**Beetle-Like Scanning Tunneling Microscope for Ultrahigh Vacuum and Low-Temperature Applications**, R. R. Schulz (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and C. Rossel, *Review of Scientific Instruments* **65**, No. 6, 1918-1922 (1994).

## S

**Examining Nanoenvironments in Solids on the Scale of a Single, Isolated Impurity Molecule**, W. E. Moerner (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Science* **265**, No. 5168, 46-53 (1994).

**On the Frequency-Locked Orbits of Two Particles in a Paul Trap**, J. Hoffnagle (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and R. G. Brewer, *Science* **265**, No. 5169, 213-215 (1994).

**Mercury-Based Cuprate High-Transition Temperature Grain Boundary Junctions and Squids Operating Above 110-Kelvin**, A. Gupta (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Science* **265**, No. 5175, 1075-1077 (1994).

**A Silicon VLSI Optical Sensor for Pattern Recognition**, W. O. Camp (IBM Corporation, Oswego, NY 13827) and J. Van der Spiegel, *Sensors and Actuators A* **43**, No. 1-3, 188-195 (1994).

**Integrated Ultra Thin Film Gas Sensors**, C. L. Johnson (IBM Corporation, Burlington, VT 05452) et al., *Sensors and Actuators B* **20**, No. 1, 55-62 (1994).

**Compositions on Graphs and Polyhedra I. Balanced Induced Subgraphs and Acyclic Subgraphs**, F. Barahona (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and A. R. Mahjoub, *SIAM Journal on Discrete Mathematics* **7**, No. 3, 344-358 (1994).

**Compositions of Graphs and Polyhedra II. Stable Sets**, F. Barahona (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and A. R. Mahjoub, *SIAM Journal on Discrete Mathematics* **7**, No. 3, 359-371 (1994).

**Compositions of Graphs and Polyhedra III. Graphs with No  $W(4)$  Minor**, F. Barahona (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and A. R. Mahjoub, *SIAM Journal on Discrete Mathematics* **7**, No. 3, 372-389 (1994).

**Compositions of Graphs and Polyhedra IV. Acyclic Spanning Subgraphs**, F. Barahona (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *SIAM Journal on Discrete Mathematics* **7**, No. 3, 390-402 (1994).

**A Scheme for Conservative Interpolation on Overlapping Grids**, G. Chesshire (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and W. D. Henshaw, *SIAM Journal on Scientific Computing* **15**, No. 4, 819-845 (1994).

**Generalized Energy Transport Models for Semiconductor Device Simulation**, M. C. Vecchi (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and L. G. Reyna, *Solid State Electronics* **37**, No. 10, 1705-1716 (1994).

**Hard-Nosed About Funding**, T. Brunner (IBM Corporation, Route 52, Hopewell Junction, NY 12533), *Solid State Technology* **37**, No. 8, 13 (1994).

**Mix-and-Match Strategies for Resist Processing**, K. Johnson (IBM Corporation, P.O. Box A, Essex Junction, VT 05401), *Solid State Technology* **37**, No. 8, 47+ (1994).

**Study of Bi-Pb-Sr-Ca-Cu-O/Ag Tape Prepared by the Jelly-Roll Process**, C. H. Kao (National Tsing Hua University, Hsinchu 30043, Taiwan) et al., *Superconductor Science and Technology* **7**, No. 7, 470-472 (1994).

**Using STM to Understand Diffraction Oscillations for Fe Growth on Cu(100)**, D. D. Chambliss (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and K. E. Johnson, *Surface Science* **313**, No. 3, 215-226 (1994).

**A Structural Model and Mechanism for Fe Epitaxy on Cu(100),** K. E. Johnson (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Surface Science* **313**, No. 3, L811-L816 (1994).

## T

**Effect of Cyclodextrin on Intermolecular Photoalkoxycarbonylmethylation of Anisole,** N. R. Bantu (IBM Corporation, 1701 North Street, Endicott, NY 13760) et al., *Tetrahedron Letters* **35**, No. 29, 5117-5120 (1994).

**Correlated and Gauge Origin Independent Calculations of Magnetic Properties II. Shielding Constants of Simple Singly Bonded Molecules,** S. P. A. Sauer (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Theoretica Chimica Acta* **88**, No. 5, 351-361 (1994).

**Tolerating Faults in a Mesh with a Row of Spare Nodes,** J. Bruck (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Theoretical Computer Science* **128**, No. 1-2, 241-252 (1994).

**F-Semantics for Type Assignment Systems,** H. Yokouchi (IBM Corporation, 1623-14 Shimotsuruma, Yamato, Kanagawa 242, Japan), *Theoretical Computer Science* **129**, No. 1, 39-77 (1994).

**An Algorithm for Dynamic Subset and Intersection Testing,** D. M. Yellin (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598), *Theoretical Computer Science* **129**, No. 2, 397-406 (1994).

**Lower Bounds on the Competitive Ratio for Mobile User Tracking and Distributed Job Scheduling,** N. Alon (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Theoretical Computer Science* **130**, No. 1, 175-201 (1994).

**Recent Advances in the Application of Collimated Sputtering,** B. Vollmer (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Thin Solid Films* **247**, No. 1, 104-111 (1994).

**Factors Influencing the Abrasion Resistance of Thin Film Magnetic Media,** K. J. Schulz (IBM Corporation, Rochester, MN 55901) and K. V. Viswanathan, *Tribology Transactions* **37**, No. 3, 552-558 (1994).

## W

**An Eulerian Model for Atmospheric Transport of Heavy Metals Over Europe: Model Description and Preliminary Results,** J. Bartnicki (IBM Corporation, Thormøhlensgate 55, N-5008 Bergen, Norway), *Water Air and Soil Pollution* **75**, No. 3-4, 277-283 (1994).

## Z

**Ab Initio Path Integral Molecular Dynamics,** D. Marx (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and M. Parrinello, *Zeitschrift für Physik B* **95**, No. 2, 143-144 (1994).